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CF022008: Linearization of the ConvF for the EX/3527 probe

To Whom It May Concern

On request of Motorola we have evaluated the calibration data of the probe EX/3527 since April 24th, 2004 and noticed a good stability of the performance of the probe at both frequencies 5.2 and 5.8 GHz, i.e., the probe performance is as expected. Due to the physics of the probe, the conversion factors for non-faulty probes are within those of the two frequencies. Therefore it is possible to interpolate the conversion factor linearly between the two frequencies for the same liquid and the expected uncertainty of interpolated calibration parameters (new term is treated as offset) is not more than

$$Unc_{ConvF-Ext} = Unc_{ConvF} + 100\% \left(\frac{ConvF_{5200} - ConvF_{5800}}{ConvF_{5200} + ConvF_{5800}} \right) \frac{1}{\sqrt{3}} \quad (k = 1)$$

whereby Unc_{ConvF} (k=1) is the ConvF uncertainty stated on the probe calibration document.

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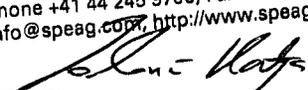
Technical Manager: Katja Pokovic

Zurich, February 15, 2008